ABOUT ELECTRONICS & ICT ACADEMIC AT PDPM IIITDM JABALPUR

The Ministry of Electronics and Information Technology, Government of India, has instituted seven Electronics and ICT Academies with one academy at PDPM IIITDM Jabalpur. The primary objective of the Academy is to prepare manpower for two important missions - 'Digital India' and 'Make in India'. The Academy aims at scalable training programmes in niche areas of Electronics and ICT for the development of required knowledge base, skills, and tools to unleash the talent of the Indian population. In addition to the faculty development programmes on fundamental and advanced topics, the Academy conducts customized training programmes for the corporate sector and research promotion workshops in emerging areas. The Academy is envisioned to become a central hub of activities on training, research, consultancy work, and entrepreneurship programmes.

ABOUT PDPM IIITDM JABALPUR

PDPM IIITDM Jabalpur was established in 2005 with a focus on education and research in IT-enabled Design and Manufacturing. Since its inception, PDPM ITTDM Jabalpur has been playing a vital role in producing quality human resources for contribution in India's mission of inclusive and sustainable growth. The Institute offers undergraduate, postgraduate and PhD programmes in Computer Science and Engineering, Electronics and Communication Engineering, Mechanical Engineering, Design and PhD programmes in Mathematics, Physics and Literature. Under IIIT act, the Institute has been declared as an Institute of National Importance in January 2015. The Institute campus is being developed on 250 acres of land close to Dumna Airport, Jabalpur. The Institute is 10 km from the main railway station and 5.5 km from Dumna Airport, Jabalpur.

ORGANIZING COMMITTEE

CONVENOR COMMITTEE:
Dr. K. Gopal, I.A.S.,
Additional Chief Secretary to Government,
Higher Education Department, Government of Tamil Nadu.
Chairman, Vice Chancellor Convenor Committee, Anna University.

Mr. T. Abraham, I.A.S.,
Commissioner, Directorate of Technical Education, Government of Tamil Nadu.
Member, Vice Chancellor Convenor Committee, Anna University.

Dr. S. Usa
Professor and Chairperson, Faculty of Electrical Engineering, Anna University.
Member, Vice Chancellor Convenor Committee, Anna University.

PATRON:
Dr. J. Prakash
Registrar
Anna University, Chennai

Dr. P. Hariharan
Director (CCC)
Anna University, Chennai

E& ICT ACADEMY, IIITDM JABALPUR:
Prof. Bhartendu K Singh
Director, IIITDM, Jabalpur

Prof. Aparajitha Ojha
E&ICT Academy, Chief Investigator

CORE TEAM:
Dr. T. Senthil Kumar
Dean & Nodal Institute Head
University College of Engineering, BIT Campus

Dr. P. Vaishnavi
Nodal Officer
Department of Computer Applications
University College of Engineering, BIT Campus

Dr. A. Valarmathi
Programme Coordinator
Department of Computer Applications
University College of Engineering, BIT Campus

COURSE COORDINATORS:
Dr. V.M. Priyadharshini
Dr. R. Kavitha
Dept. of Computer Science and Engineering
University College of Engineering, BIT Campus

ONLINE WINTER FACULTY DEVELOPMENT PROGRAMME
(LIVE STREAMING)
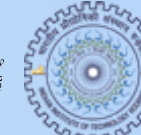
AI AND DEEP LEARNING

February 01 - 23, 2025

Sponsored by

Ministry of Electronics and Information Technology
Government of India
(A Pilot Project - Phase II)

Jointly organized by

IIT Guwahati **IIT Roorkee** **NIT Patna** **MNIT Jaipur**

NIT Warangal **IIITDM Jabalpur**

Hosted by

Anna University, Chennai
University College of Engineering, BIT Campus,
Tiruchirappalli

ABOUT UNIVERSITY COLLEGE OF ENGINEERING, BIT CAMPUS, ANNA UNIVERSITY, TIRUCHIRAPPALLI

University College of Engineering (UCE), BIT Campus, Anna University, Tiruchirappalli has been established in 1999 and now functioning as a constituent college of Anna University, Chennai. UCE-BIT Campus, Anna University has become sufficiently multifaceted with 7 Faculties with 16 Teaching Departments including some specialized programmes. Our institute has NBA Accreditation and offers 10 B.E/B.Tech. Undergraduate degree programmes, 8 M.E/ M.Tech Masters degree programmes along with MBA, MCA and Ph.D. programmes in all discipline with 4628 students in the campus. We are the TEQIP II sponsored institution with UGC 2f & 12B status.

The unique dimension of the institute's educational profile harnesses the research and teaching interests of the faculty to forge its own character and to bring an extra value-addition to it. The departments of our institute are carrying out specialized and socially responsive interdisciplinary research. Our institute has 2 Centres funded by DST and AICTE. UCE, BIT Campus received research and consultancy from various funding agencies of India for a total value of 300 Million Rupees. We are the recipient ofAnna University Patent Awards for three successive years. Our students grab Hackathon titles for 5 consecutive years from various Ministries of Government of India.

The Institution works towards developing partnerships with industries and academic institutes to provide quality education & opportunities for entrepreneurial development by having EDII–Anna Business Incubation Research Foundation (Section 8, Not for Profit Company). We also have EDII-Academic Innovation & Entrepreneurship Development Programme Hub (EDII-Tiruchirappalli Hub) funded by Government of Tamilnadu. The main objective of the institute is to generate a horde of highly creative professionals, who can contribute not only to the Human Resource Development and also to Nation building exercise.

FACULTY DEVELOPMENT PROGRAMME: AI AND DEEP LEARNING

Who can attend: Programme is open to faculty members from all colleges and universities preferably from Tamil Nadu. Faculty members from other states are also eligible. Industry personnel working in the concerned/allied discipline may also apply. Limited sears are available for research scholars and PG Students.

COURSE CONTENTS

- Brief introduction to AI and machine learning, Neural networks, Logistic regression, Forward and backward propagation, Vanishing and exploding gradient problems. Regularization and optimization.
- Convolutional neural network (CNN), Activation maps, Standard CNN architectures and emerging networks. CNN for classification and regression problems, Concept of transfer learning.
- Sequence modeling: Recurrent Neural Network (RNN), LSTM and GRU, Attention models and transformer networks. Applications of sequence models, Large language models – ChatGPT.
- Different types of deep neural networks, vision transformers, Applications of Deep neural networks in different domains, Explainability of deep learning models.
- Generative modelling using deep neural networks, autoencoders and variational autoencoders, Generative Adversarial Networks and their applications

RESOURCE PERSONS

- **Dr. R. Balasubramanian,** IIT Roorkee
- **Prof. Santosh Kumar Vipparthi,** IIT Ropar
- **Dr. Subrahmanyam Murala,** Trinity College, Dublin
- **Prof. Pritee Khanna,** PDPM IIITDM Jabalpur
- **Dr. Amit Vishwakarma,** PDPM IIITDM Jabalpur
- **Dr. Shivram Dubey,** IIIT Allahabad
- **Dr. Varun Bajaj,** MANIT Bhopal

REGISTRATION DETAILS

Registration link – Please fill in the registration form using the following link: https://docs.google.com/forms/d/e/1FAIpQLSfm0dLbw30uHr2nUMGe77_dmCFZ31l-aUb_Za_4Gk2s4TRIPA/viewform?usp=header

Registration fee: INR 500/-

Last Date for Registration: January 30, 2025

Online payment details:
Internet banking:
Beneficiary Name: PDPM IIITDM Jabalpur
Bank Name: INDIAN BANK
A/C No. : 50018692852
IFSC Code: IDIB000M694

UPI ID : iiitdmj@indianbk

PDPM IIITDM JABALPUR
SCAN & PAY
UPI ID : iiitdmj@indianbk

Digital India
Power To Empower

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